

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/08170

A. CLASSIFICATION SUBJECT MATTER  
Int.Cl<sup>7</sup> F16L37/23

**COPY**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> F16L37/23

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1926-1996	Toroku Jitsuyo Shinan Koho	1994-2003
Kokai Jitsuyo Shinan Koho	1971-2003	Jitsuyo Shinan Toroku Koho	1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 6089539 A (NITTO KOHKI CO., LTD.), 18 July, 2000 (18.07.00), & JP 11-108279 A Column 5, line 12 to column 6, line 28; column 8, lines 2 to 15	1,2 3-6
Y A	JP 8-170779 A (Kazuo YANO), 02 July, 1996 (02.07.96), Column 5, line 15 to column 6, line 9 (Family: none)	1,2 3-6
Y A	JP 8-82395 A (Kazuo YANO), 26 March, 1996 (26.03.96), Column 8, line 5 to column 9, line 26 (Family: none)	1,2 3-6

 Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search  
03 September, 2003 (03.09.03)Date of mailing of the international search report  
16 September, 2003 (16.09.03)Name and mailing address of the ISA/  
Japanese Patent Office

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**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 10-38170 A (NITTO KOHKI CO., LTD.), 13 February, 1998 (13.02.98), Column 4, line 44 to column 5, line 37 (Family: none)	1-6